

AMENDMENTS

To the Claims:

Claim 1. (Currently amended) A current-driven active matrix organic light emitting diode pixel (AMOLED pixel), comprising:

an organic light emitting diode (OLED) having an anode and a cathode directly connected to a ~~[[first]]~~negative power source;

a driving thin film transistor;

a capacitor having a first end directly connected to a gate of the driving thin film transistor and a second end directly connected to a ~~[[second]]~~positive power source;

a first switch having ~~one end~~ a first end directly connected to the anode of the OLED ~~and another end,~~ a second end directly connected to a drain of the driving thin film transistor, and a control end directly receiving a first control signal;

a second switch having ~~one end~~ a first end directly connected to a current source ~~and another end,~~ a second end directly connected to the drain of the driving thin film transistor and the second end of the first switch, and a control end directly receiving a second control signal;

a third switch having ~~one end~~ a first end directly connected to the drain of the driving thin film transistor and the second end of the first switch, ~~and another~~ a second end directly connected to the gate of the driving thin film transistor and the first end of the capacitor, and a control end directly connected to the control end of the second switch for directly receiving the second control signal; and

a pre-charge switch having a first end directly receiving a driving power source, a second end directly connected to the gate of the driving thin film transistor, and a driving power source the first end of the capacitor and the second end of the third switch, and a control end directly receiving a third control signal,

wherein the pre-charge switch ~~controls~~ is first turned on by the third control signal so as to make the driving power source to pre-charge the capacitor to a pre-charge voltage level before the current source charges or discharges the capacitor, and thus making the driving thin film transistor have turned on when the current source charges or discharges the capacitor,

the second and the third switches are turned on by the second control signal after the pre-charge switch is turned off by the third control signal, and

the first switch is turned on by the first control signal after the second and the third switches are turned off by the second control signal.

Claims 2-6 (cancelled)

Claim 7. (Currently amended) The current-driven AMOLED pixel of claim 1, wherein each of the first switch, the second switch, the third switch, the driving thin film transistor, and the pre-charge switch is a P-~~[[type]]~~channel thin film transistor.

Claim 8. (Withdrawn – currently amended) The current-driven AMOLED pixel of claim 1, wherein each of the first switch, the second switch, the third switch, the driving thin film transistor, and the pre-charge switch is an N-~~[[type]]~~channel thin film transistor.

Claim 9. (Previously presented) The current-driven AMOLED pixel of claim 1, wherein the driving power source is a negative power source.

Claim 10. (Cancelled)

Claim 11. (Original) The current-driven AMOLED pixel of claim 1, wherein the driving power source comprises two different voltage levels.

Claim 12. (Withdrawn) A method for driving a current-driven active matrix organic light emitting diode (AMOLED) pixel, wherein a pre-charge switch is disposed between a driving thin film transistor of the AMOLED pixel and a driving power source and directly connected to the gate of the driving thin film transistor, a capacitor is directly connected to the gate of the driving thin film transistor of the AMOLED pixel, the method comprising:

directly pre-charging the capacitor through the pre-charge switch by using the driving power source;

adjusting a gray-scale charging voltage of the capacitor by charging or discharging the capacitor using a current source; and

stopping charging or discharging the capacitor through the current source to control the AMOLED pixel to enter an illumination stage.

Claim 13. (Withdrawn – currently amended) The method of claim 12, wherein the capacitor is pre-charged to a voltage that ~~is substantially equal to a threshold voltage~~ of makes the driving thin film transistor have turned on when the current source charges or discharges the capacitor.

Claim 14. (Withdrawn) The method of claim 12, wherein the driving power source comprises two different voltage levels.

Claims 15-16. (Cancelled)

Claim 17. (New) A current-driven active matrix organic light emitting diode pixel (AMOLED pixel), comprising:

an organic light emitting diode (OLED) having an anode and a cathode directly connected to a negative power source;

a driving thin film transistor;

a capacitor having a first end directly connected to a gate of the driving thin film

transistor and a second end directly connected to a positive power source;

a first switch having a first end directly connected to the anode of the OLED, a second end directly connected to a drain of the driving thin film transistor, and a control end directly receiving a first control signal;

a second switch having a first end directly connected to a current source, a second end directly connected to the drain of the driving thin film transistor and the second end of the first switch, and a control end directly receiving a second control signal;

a third switch having a first end directly connected to the drain of the driving thin film transistor and the second end of the first switch, a second end directly connected to the gate of the driving thin film transistor and the first end of the capacitor, and a control end directly connected to the control end of the second switch for directly receiving the second control signal; and

a pre-charge switch having a first end directly receiving a driving power source, a second end directly connected to the gate of the driving thin film transistor, the first end of the capacitor and the second end of the third switch, and a control end directly receiving a third control signal.